

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Appln. No. 10/808,469

REMARKS

Claims 24-51 are all of the pending claims. Claims 29-39 and 46-51 are withdrawn from consideration as being drawn to a non-elected invention. Claims 24-28 and 40-45 presently stand rejected. Of examined claims 24-28 and 40-45, claims 24 and 25 are independent claims. By way of this Amendment, Applicant has canceled claims 29-39 and 46-51 and has added new claims 52 and 53.

Claim Rejections Under 35 U.S.C. § 102 and §103

Claims 24-26, 28, 40, and 43 are rejected under 35 U.S.C. § 103(a) as being allegedly anticipated by Chao et al. (US 6,285,503). Claims 27, 41, 42, 44, and 45 are rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Chao in view of Veldkamp et al. (US 4,846,552).

Claim 24

With respect to independent claims 24, Applicant respectfully traverses the rejection at least because Chao does not teach all of the claim's recitations. For example, Chao does not teach the claimed process for fabricating a computer-generated hologram including *forming a relief on a substrate* by photoetching on the basis of a found quantized depth to obtain a relief pattern, and *patterning a resin layer using said relief pattern* to form a hologram relief on a surface of said resin layer.

Chao discloses a holographic diffuser in which the depth of etching of the holographic diffuser is calculated from a phase distribution function. *See* Chao at 2:39-47. The thickness of

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each “unit”, or micro area of the holographic diffuser is determined according to multiple wavelengths of the light source $\lambda_1, \lambda_2, \lambda_3, \dots, \lambda_n$.

According to the method used to obtain Chao’s holographic diffuser, multiple *masks* are prepared. Each mask has a pattern based on one level of the diffuser pattern (step 503). *See* Chao at 4:5-17 & 37-44. The masks’ patterns are each transformed to a photoresist layer (step 505) until the holographic diffuser having multiple etched levels is obtained.

The claimed invention requires forming a relief on a substrate by photoetching to obtain a *relief pattern* and patterning a resin layer using said relief pattern. However, Chao merely teaches the use of multiple *masks* and does not teach or suggest forming a relief or patterning a resin layer using a relief pattern.

Accordingly, Applicant respectfully requests that the Examiner withdraw the rejection of independent claim 24.

Claim 25

With respect to independent claim 25, Applicant respectfully traverses the rejection at least because Chao does not teach all of the claim’s recitations. For example, Chao does not teach the claimed process for fabricating a computer-generated hologram including repeating photoetching given times corresponding to an obtained depth and the number of steps to form a relief pattern on an etching substrate, and patterning a resin layer using said relief pattern to form a hologram relief on a surface of said resin layer.

As discussed above with respect to claim 24, Chao merely teaches the use of multiple *masks* and does not teach or suggest forming a relief or patterning a resin layer using a relief

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pattern. Accordingly, Applicant respectfully requests that the Examiner withdraw the rejection of independent claim 25.

Claims 26-45

Applicant respectfully requests that the Examiner withdraw the rejection of dependent claims 26-28, 40-42, and 44 at least because of their dependency from one of claims 24 and 25.

Applicant respectfully requests that the Examiner withdraw the rejection of dependent claims 43, 44, and 45 at least because of their dependency from one of claims 24 and 25, and because Veldkamp, which the Examiner asserts as showing a number of steps L having a depth of the relief is the Nth power of 2 and an optical reflective layer, does not cure the deficiencies in Chao discussed above. Veldkamp does not teach a process including patterning a resin layer using a relief pattern to form a hologram relief. Instead, Veldkamp teaches the use of a mask to form the optical element.

New Claims

Moreover, Applicants have adding new dependent claims 52 and 53, which recite that the step of patterning a resin layer using said relief pattern to form a hologram relief on a surface of said resin layer includes pressing the relief pattern against the resin layer, and then curing the resin layer. These claims are fully supported in the original specification at least by the non-limiting embodiment discussed on page 48, lines 9-25.

Applicant respectfully submits that new claims 52 and 53 are allowable at least because of their dependency from claims 24 and 25.

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Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



John M. Bird
Registration No. 46,027

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

WASHINGTON OFFICE

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